

Remarks:

This amendment is submitted in an earnest effort to advance this case to issue without delay.

The §112 rejection relating to the interpretation of DIN 53815 can be obviated by an explanation of this standard.

DIN 53815 describes standardized parameters for conducting stretch tests such that these tests can be executed under reproducible and standard conditions. This application is concerned with the "tensile strength" defined in this DIN standard, and with the "maximum tensile force work" (see English translation of DIN 53815 filed on/about 5 March 2007) or, as described in the application, the "tensile strength capacity at maximum bonding." This parameter corresponds to the maximum tension applied during a test on a sample. (It should be noted that DIN 53815 is not limited to particular types of workpieces.) When the stretch is plotted against the applied tension, the maximum tension defines an upper limit of the resultant curve. The maximum tension is thus the area under the curve.

The maximum tension of a spunbond fleece is readily terminable when the spunbond filaments are bonded together at a maximum number of intersections, basically at every crossing. Measurement of the maximum tension and the graphic representation of it plotted against tension is determined as the integral of the curve without exceeding the maximum. Starting from this measured

value during calendering the pressure and/or the temperature of the calender roller is set such that the tensile strength at maximum bonding is 50% of the maximum possible value. The measurement and setting of the tensile strength at maximum bonding is not difficult for the person skilled in the art. Thus it is not a big deal for the person skilled in the art to carry out the process of the instant invention as defined in current claim 18. Thus claim 18 does indeed meet the requirements of §112.

In sum, presuming maximum bonding, which means that the filaments forming the spunbond are fused together at virtually all crossings, it is relatively easy to determine a maximum tension. Beyond this maximum tension the workpiece comes apart, so the "tensile strength at maximum bonding" is how much tension can be applied to the maximum-bonded workpiece without tearing it. Once this tensile strength is determined, the person skilled in the art does not need to be a rocket scientist to determine what half of it is. Then by appropriate control of calendering pressure and/or temperature, the appropriately strong spunbond is produced.

The instant invention is aimed at making a fiber laminate usable as a cleaning cloth. To this end the cloth needs two critical capacities: absorbency and abrasion-resistance. In particular the cloth should not come apart when used on rough surfaces, and fibers should not readily separate from the cloth surface under these circumstances. The instant invention is a process for making such a cloth that entails five different steps

producing a two-layer laminate. The five steps are detailed in main claim 18 and now include the addition of a wetting agent as originally recited in now canceled dependent claim 13.

The main rejection is on US 7,022,201 of Anderson. This reference does not teach a prebonding step equivalent to step b) of claim 18. Neither is any wetting agent shown or suggested. Thus a §102 rejection on this reference is impossible.

A §103 rejection is also not possible because there is no discussion of a carefully controlled prebonding step, as is admittedly critical to this invention. Nor is there any idea of using a wetting agent. Thus the claims cannot be rejected on Anderson.

The secondary rejection is on the combination of US 6,177,370 of Skoog in combination with US 3,485,706 of Evans.


Skoog shows multilayer laminate where a layer of fibers, which can be extruded, is provided between the layers. Once again there is no carefully controlled prebonding step to achieve a maximum tensile strength as lucidly defined in claim 18. A wetting agent is also not described, so Skoog is purely cumulative to Anderson.

Evans is a massive disclosure describing a number of different methods for making various nonwovens. Even if a careful retrospective examination can cull a wetting agent from Evans, there is no suggestion that it should be applied to a meticulously

prebonded layer and then hydrodynamically bonded to another layer of hydrophilic fibers. This is just going too far. The rejections on Skoog and Evans must thus fall.

The instant invention is defined in considerable detail in claim 18. In particular a prebonding step is carefully described that aims at a relatively low maximum tensile strength as, surprisingly enough, this has been found to produce the best cleaning cloth. Nothing in the art suggests thus restricting tensile strength of one layer of a two-layer hydrodynamically bonded laminate. Thus all the claims are clearly allowable over the cited art and allowance of all claims is in order.

Respectfully submitted,  
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